

Value Chain Analysis Method

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Abstract:

The article analyzes the basic theoretical framework of the value chain, tools for the value chain analysis. From there the author contacted the fisheries sector of Vietnam. There are many value chain analysis tools that businesses can apply such as drawing value chain diagrams, Porter's 5 competitive pressure model, PEST model, depending on the characteristics of the unit. Choose the appropriate method and bring the highest efficiency.

Keywords: Value chain analysis, literature review, Vietnam

1. Introduction

In fact, the value chain analysis (CGT) approach is used to provide strategies or solutions to increase the value of products, and thus to increase profits for the entire CGT. This method has been applied by various groups of authors and organizations in foreign countries such as Porter (1985), Gereffi (1994, 1999), Kaplinsky (1999), Kaplinsky and Morris (2001), Gereffi et al (2005).). In addition, in 2006, the FAO also provided guidelines for the analysis of a CGT. Then, in 2007, the "Valuelinks" value chain linkage approach was adopted by GTZ. Then, in 2008, DFID applied a CGT approach to improve market efficiency for people. poor "M4P". IFAD has also proposed CGT analysis that integrates vulnerable actors into CGT in 2014. These approaches are applied in many different research fields such as agriculture, fisheries, and tourism.

In previous studies on CGT, the authors have used many different tools, including a combination of qualitative tools (analyzing the interaction between actors in CGT; analysis of linkages. horizontal and vertical of actors in CGT; analyzing the response to product quality of the market; drawing CGT diagram; assessing congestion of CGT; upgrading CGT; analyzing horizontal and vertical linkage of actors CGT multiplier; product positioning; risk analysis; chain logistics analysis; policy analysis) and quantification (actor cost and benefit analysis; income distribution analysis among actors employment distribution analysis). In Vietnam, the new CGT approach has been interested and widely applied since 2000. Vietnamese researchers have also inherited these approaches and tools to carry out related research. to product CGT, commodity sectors in many different sectors in the economy. In addition, in practice, in order to develop strategies or solutions to upgrade CGT, many authors have combined PEST model analysis tools, Porter's 5 competitive pressure and SWOT matrix with CGT analysis. There, if the CGT analysis focuses on analyzing the internal factors of CGT, two tools for PEST analysis and 5 competitive pressure of Porter are used to analyze external factors that have an impact on the operation. actions of actors involved in CGT. The SWOT analysis tool is used to combine internal factors (from CGT analysis) and external factors (from Porter's PEST analysis and 5 competitive pressures) to develop strategies or CGT upgrade solution. The studies using this approach can be mentioned as the study of Anton (2015) in building a strategic framework using a combination of 3 PEST tools, 5 competitive pressures of Porter and SWOT. ; a study on competitiveness to adjust the marketing strategies of businesses in the construction industry of the Czech Republic conducted by Barashkova in 2018; Muzi and Wong (2014) also used this approach to conduct research on strategic management of Haier furniture supplier in China; Rutta (2015) conducts research on developing a competitive strategy for a retail business company in the Czech Republic; Yildirim and Erbaş (2011) conducted a study on environmental strategic analysis of the service sector in Turkey; Farova (2011) did a study on strategic management of a pharmaceutical company in Jordan; Anna (2015) studies the relationship between strategic tools and techniques on the performance of 91 companies in the Czech Republic, and Xu (2009) other studies in Korea; Brnjas and Tripunoski (2015) in Serbia. However, in

Vietnam, combining these tools with CGT analysis tools to develop solutions or strategies to develop or upgrade CGT in the fisheries sector is hardly applied.

2. Literature review: Tools used in value chain analysis

2.1. Draw a value chain diagram

VALUE CHAIN drawing is an important tool in VALUE CHAIN analysis. VALUE CHAIN diagram will make it easier to recognize the path of a product in the VALUE CHAIN. Therefore, draw a diagram of VALUE CHAIN to achieve the following goals: to generalize VALUE CHAIN; identify obstacles and possible solutions to remove obstacles at the stages of a VALUE CHAIN; describe actors involved in each stage of the VALUE CHAIN and their connection in the VALUE CHAIN and describe the market roles or functions of actors in the VALUE CHAIN (DFID, 2008). The main problems that arise when drawing a VALUE CHAIN diagram include: What are the main stages or stages of a VALUE CHAIN? What actors are involved in the VALUE CHAIN stages and what is their market function? How many distribution channels are there in the VALUE CHAIN? What is the proportion of the product going through the channels and the number of actors involved in each stage of the VALUE CHAIN? How much does the value of a product increase through each step of the VALUE CHAIN? What relationships and connections exist in the VALUE CHAIN? What types of services are provided for value chain operations? What are obstacles and possible solutions to remove obstacles in the VALUE CHAIN? What product lines are being produced and consumed in the VALUE CHAIN?

The steps to be performed using the tool include: drawing the main stages or stages of a VALUE CHAIN; identify the actors involved in each stage of the VALUE CHAIN; determine the flow of a product through the stages of the VALUE CHAIN; describe information and knowledge shared and exchanged between actors in the VALUE CHAIN; describe the amount of products and the number of actors across the different distribution channels in the VALUE CHAIN; describe the added value of products through each stage of the VALUE CHAIN; describe the relationship and linkages between actors in the VALUE CHAIN; describe services that provide value chain operations from outside the VALUE CHAIN; and describe obstacles and possible solutions to remove obstacles in the VALUE CHAIN stages.

2.2. Analysis of governance mechanism among actors in the value chain

This analysis is intended to examine the operating rules in the VALUE CHAIN between actors in the VALUE CHAIN. These rules can be formal or informal. In fact, this analysis includes an analysis of actors' commitments to the government's legal frameworks for market entry. This analysis focuses on three main issues: the structure of the actors in the VALUE CHAIN; laws and regulations inside and outside the VALUE CHAIN; and control mechanism (transfer of information and services). Therefore, the objectives set for this analysis include: understanding how the VALUE CHAIN is organized, including actors and mechanisms (e.g. contracts, agreements and services.) and why this arrangement is in place; describe the rules, laws, regulations and standards that affect the VALUE CHAIN, how commitments to the rules are monitored, and what rewards and penalties are used to ensure commitment of agents to strictly comply with regulations; assess the impact of these rules and regulations on the actors in the VALUE CHAIN; assessing the benefits of actors in the VALUE CHAIN from external support to help them meet the required product standards from the market. The main issues posed when using this tool are: which coordination system currently meets the commercial target, with regard to quality, quantity and stability with regard to target commitments. standard product? Who are the key drivers of the VALUE CHAIN activities? Collaboration based on legal contracts or informal agreements based on mutual trust? What rules and regulations need to be followed by actors in the VALUE CHAIN? From whom do these rules come from and how are they run? What are the effects of these rules on the actors?

The steps to be taken using the tool include: Describe the actors; determine the supply and demand conditions of the VALUE CHAIN; identify the primary coordination arrangement in the VALUE CHAIN; How to analyze the target groups of actors participating in the VALUE CHAIN? Identify the rules and regulations relating to the operation of the VALUE CHAIN; Analyze the impact of rules and laws on actors in the VALUE CHAIN; Analyze actors' perceptions of rules and regulations and identify key bottlenecks? Analyze how information and services are provided to actors in the VALUE CHAIN through the VALUE CHAIN and from actors outside the VALUE CHAIN.

2.3. Analysis of linkages and commercial relationships of actors in the VALUE CHAIN

Trust and connection have a close relationship in the VALUE CHAIN. Organizations that are not linked will have few reasons to "trust" each other, even if they do not doubt each other. On the contrary, credibility may not be important if there is an effective enforcement of a certain commitment mechanism. However, without an effective enforcement mechanism, the unbelievable bond is always not sustainable. This analysis not only identifies which organizations are associated with which organizations in a VALUE CHAIN, but also analyzes why the association and the association are beneficial for all parties. In addition, this analysis will also show possible constraints in the association and the potential to develop linkages based on mutual trust among actors participating in the association. Links in the VALUE CHAIN include crosslinking (links between actors in a value chain or steps in the VALUE CHAIN) and vertical links (links between actors in different stages or stages). in the VALUE CHAIN). The goals to be achieved in this analysis include: describing the horizontal and vertical linkages of actors in the VALUE CHAIN; Evaluate the impact of linkages on actors involved; and assess the sustainability of the linkages. Questions posed when doing this analysis include: What linkages exist in the VALUE CHAIN; How important are these links? How many actors are involved in the link? The nature and degree of association like? What are the costs, benefits, and reliability of the links? How long have the links been? How is the association form formed and changed? How has links grown over time?

The steps to be taken using this tool are: describe the structure of respondents to be interviewed in relation to horizontal and vertical links; identification of horizontal and vertical links; surveying the agents; analysis of survey results; determine the power distribution of actors in the VALUE CHAIN; analysis of confidence between the actors;

2.4. Analyze potential enhancement options for knowledge, skills, technology, and support services

With this tool, bottlenecks between quality required by the market, perceptions of the quality of the different actors in the VALUE CHAIN and the existing quality are fed to the market of actors on the Different distribution channels of VALUE CHAIN will be analyzed. Following the analysis of these bottlenecks, opportunities for advancement of knowledge, skills, and technology will be identified. Also, potential service providers will be identified. Therefore, the objective of this tool is: to analyze the technical efficiency currently being used by the VALUES CHAIN actors; existing and required technical classification in the VALUE CHAIN; analyzing the suitability of the techniques used (sufficient capacity, suitable for conditions of use, easy to buy, easy to replace, easy to fabricate) in the VALUE CHAIN; analyzing options to improve the quality of output products; analysis of the impact of outside investments on knowledge and technology (innovation and research and development); analyze the causes of bottlenecks or obstructions and their impact on the operation of the VALUE CHAIN; identify needs and opportunities for skills, knowledge and technology enhancement; Analyzing the possibilities to create enhanced opportunities. The problems posed for this analysis include: What are current product standards in the market? What is the technology being used and the quality of the products produced by the VALUES CHAIN actors and how effective are they? What is the perception of product quality among actors in the VALUE CHAIN, is it the same, if different, how? Who determines the direction and investment in technology in the VALUE CHAIN? Who organizes, supplies and spends on quality control? Is the level of knowledge, skills and technology available to actors in the VALUE CHAIN sufficient to produce the required market output? What advanced interventions have been tested in the past and with what results? Are advanced options available in the market? Who is leading the change and are they willing to share? How is the cost and profitability of the technology being used? Who can provide advanced solutions?

The steps in using this tool are: analyzing the differences in the use of technology, skills and knowledge of actors in the same stage of the VALUE CHAIN; define and describe product standards (both supply and demand sides) in the VALUE CHAIN; identify different market chains based on the knowledge, skills and technologies used and the quality level of products produced; identify opportunities for skills, knowledge and technology enhancement to improve the VALUE CHAIN; Analyze which services should be provided to help improve knowledge, skills and technology and who are potential service providers.

2.5. Analysis of the distribution of costs, value added and net added value (profit) of actors in the VALUE CHAIN

Before making a decision to enter the market, any manufacturer must also determine which category of business to bring the highest profit margin. To do so, one of the ways to achieve this goal is to analyze the income, costs and thus the profits earned in the business. The concept of cost here is the amount of money that a manufacturer has to spend to produce a certain product. The profit is the amount of money they earn after subtracting the costs spent. There are five goals in using this tool, including: determining how operating costs and investment costs are distributed among the value chain actors; how to distribute profits among actors; how agents change costs and benefits over time; compare the returns on different commodity chains to determine whether business should change; and compare margins between similar product chains to see if VALUE CHAIN can be upgraded. Questions to ask when using this tool include: What is the cost of each actor (including fees and variable fees) and what investments are required to enter the industry? What is the income of each actor in the VALUE CHAIN? What are the returns for the value chain actors and the breakeven point? Over time, how do costs, income, returns and investments change and are they distributed to actors? What is the opportunity cost of joining the VALUE CHAIN? Is the profit of a VALUE CHAIN low or higher than that of a VALUE CHAIN of the same type elsewhere? What is the underlying reason for the distribution of costs and benefits among actors in the VALUE CHAIN?

The steps in using this tool include: determining the opportunity cost or the financial cost of participating in a VALUE CHAIN; calculating costs and required investments; calculating the income of actors; calculation of financial ratios (value added, percentage of value added distribution, profit and profit distribution percentage)

The financial concepts used in this analysis are: total revenue (equal to the amount of output sold in the market multiplied by the unit selling price of product) denoted TR; Total costs include both constant and variable costs. These total costs include intermediate costs (which are the direct costs that the manufacturer has to pay to create the product, denoted by IC) and the incremental costs (including taxes, interest payable, rentals). hiring and amortization of fixed assets, denoted by AC); Added value (VA) is the difference between TR and IC; Net added value or profit (NVA or P) is the difference between VA and AC.

2.6. PEST model analysis

PEST is the acronym for the first four letters of the phrases Political; Economical; Sociocultural and Technology (Technical), is shown in Figure 1. In which, an analysis of institutional / policy factors to assess the impact of policies and institutions in and abroad having a positive or negative influence on the activities of actors participating in the value chain. Policies and institutions are related to many different areas such as tax policy, import and export, and the environment.

Meanwhile, the analysis of economic factors will focus on analyzing issues related to inflation, exchange rate, economic integration, unemployment that affect either positively, or negatively on efficiency. the activities of the actors in the VALUE CHAIN.

Analysis of the PEST model will also help to identify cultural and social factors such as consumer preferences, age and other demographic factors that positively or negatively affect the performance of Agent in the VALUE CHAIN. Also, the use of this analysis tool will identify technological factors that positively or negatively affect the performance of actors in the VALUE CHAIN.

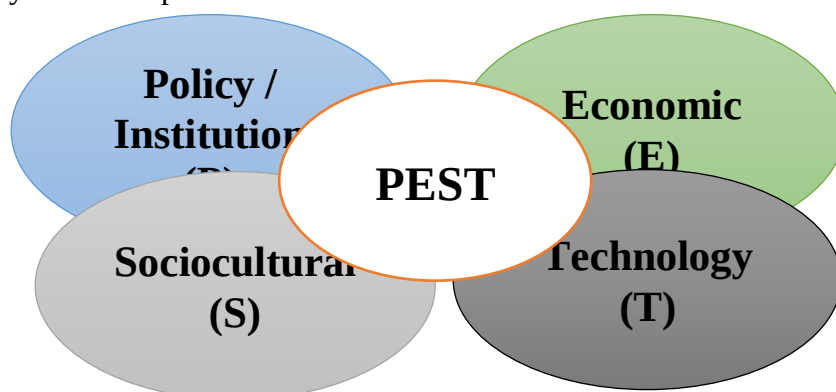
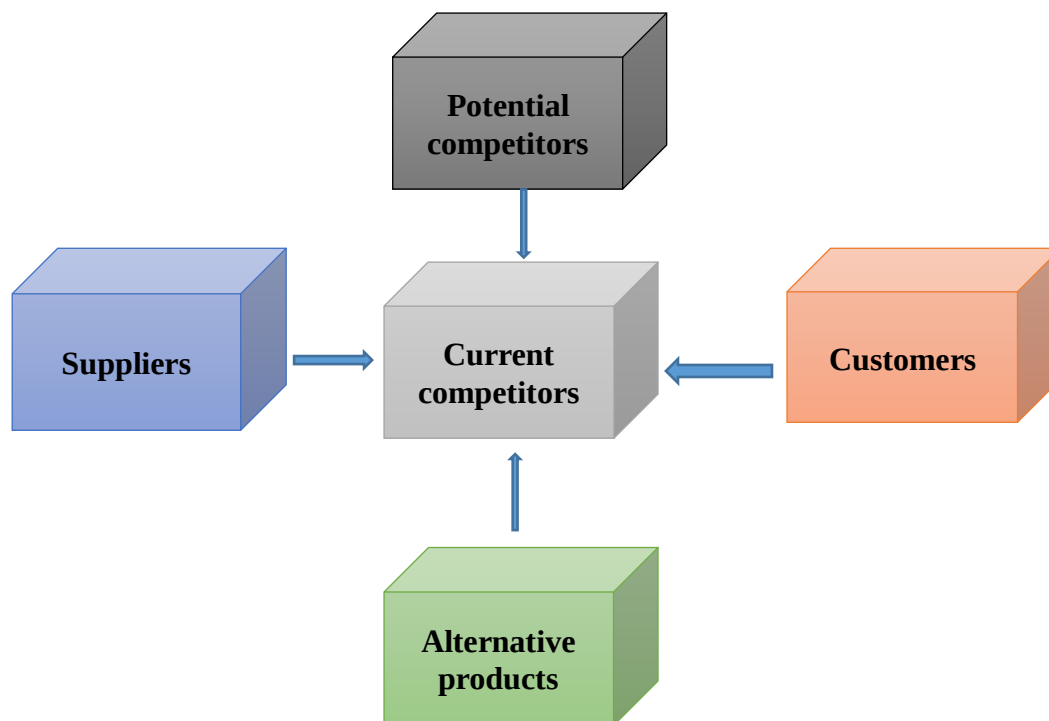


Figure 1. PEST model*Source: Aguilar, F.J. (1967)*

In summary, from the analysis of the PEST model, it will show the advantages and disadvantages of actors involved in the VALUE CHAIN in the operation process. In other words, PEST analysis shows that the business environment of actors participating in the VALUE CHAIN. The resulting advantages will be seen as opportunities for actors involved in the VALUE CHAIN the opportunity to improve operational efficiency. The remaining difficulties will be threats or challenges to the performance of the actors in the VALUE CHAIN. These opportunities and challenges will be inputs of SWOT matrix analysis to find solutions that improve the performance of actors in the VALUE CHAIN.

2.7. Analysis of Porter's 5 competitive pressure model

Porter is one of the internationally renowned competitive strategists. He gave a theoretical framework to analyze the competitiveness of an industry, as well as for a business. This model is considered as a useful and effective tool to make a competitive strategy for an industry or a business. The content of this model is shown in Figure 2. According to this model, there are 5 competitive pressures for any industry or business when participating in the business process in a competitive market context.

**Figure 2. Michael Porter's 5-pressure model of competition***Source: Porter, M.E. 1979*

There are 5 analytical elements in this model, including: 1) Competition among existing competitors, 2) Threats of new entrants, 3) Negotiating capacity of suppliers, 4) Buyer's bargaining capacity, and 5) Threat of substitute products or services. In particular, the analysis of competition between existing competitors will show the advantages and disadvantages in production and business of actors participating in the VALUE CHAIN with actors in the same stage. of another country or locality. The advantages identified in this analysis are considered the strengths of actors in the industry being analyzed. The disadvantages are considered as weaknesses of actors in the industry. Threat analysis of new entrants is analysis of the advantages or disadvantages of existing

competitors who, although not yet in the competition, are able to compete every time they decide to enter the industry. . Like the analysis of existing competitors, threat analysis of new entrants also focuses on factors such as production, processing and consumption costs; technology; raw materials; Human Resources; product difference; scale of production, processing and trading; distribution channel.

Negotiation capacity analysis of suppliers is the analysis of the ability of the input supplier to increase the input price or reduce the quality of the input supplier's product or service to the agent who is a buyer of those products. In other words, the market power analysis of the input product supplier. When the supplier has an overwhelming market power over the buyer, it also means that the buyer has an advantage in the deal over the supplier and this is seen as a buyer's weakness (buyers here want to refer to the actor being analyzed) and vice versa.

Buyer's bargaining power analysis is the examination of a buyer's threat to sell at a lower price or higher quality (the seller is the actor being analyzed). In other words, buyer analysis is the analysis of a buyer's market power over a seller. Every time the buyer has market power over the seller, it also means that the seller has a disadvantage in the production, consumption of the product and vice versa. Finally, threat analysis of alternative products or services is analyzing whether other products are capable of meeting the same needs for consumers, to see if other products have advantages or limitations. processing compared to current products. It is also worth noting that, in increasingly competitive market conditions, producers and processors are trying to create new values, added value, perceived value rather than present useful value. of the product.

In summary, the competitive advantages gained by actors in the VALUE CHAIN are considered strengths, and vice versa as weaknesses. The strengths and weaknesses derived from this analysis will be used as input components of SWOT matrix analysis.

2.8. SWOT matrix analysis

SWOT stands for 4 factors: strengths (Strength), Weakness, opportunities (Opportunity) and challenges / threats (Threat) (Henricks, 1999; Houben et al., 1999). The SWOT analysis tool was first introduced by Humphrey (2005) and has been widely used by scientists and businesses in the development of local industry development strategies and solutions, as well as business strategy for the business because this tool is simple and useful (Kotler, 1988; Wilson and Gilligan, 1997; Thompson and Strickland, 2001).

Table 1: SWOT matrix analysis

	Opportunity (O) O ₁ O ₂ O _k	Challenge (T) T ₁ T ₂ T _h
Strength (S) S ₁ S ₂ S _n	Offensive solution (S_nO_k)	Adaptive solution (S_nT_h)
Weakness (W) W ₁ W ₂ W _m	Adjustment solution (W_mO_k)	Defense solution (W_mT_h)

Source: Albert Humphrey (1960s và 1970s) và Chermack & Kassharuna (2007)

Usually, a SWOT analysis uses both primary and secondary information. Secondary information is gathered from the results of available studies, statistics from official government sources and annual reports from relevant departments, as well as from the government. localities at the provincial and district levels. Primary information, mainly qualitative information, is gathered from group discussions with producers, officials of the local government, leaders of cooperative economic organizations and officials. local technicians, as well as scientists from the Institute and School. In this study, the input of SWOT matrix analysis (4 components) is the output of PEST analysis, analysis of Michael Porter's 5 competitive pressure model, VALUE CHAIN analysis and analysis. HQSX.

According to Humphrey (1960s and 1970s), Chermack and Kasshanna (2007), there are 4 groups of solutions built from SWOT matrix analysis. In particular, offensive solutions are formed from taking advantage of the strengths of the industry or production households to pursue opportunities from outside. Meanwhile, adaptive solutions are proposed from taking advantage of strengths to limit the consequences caused by external challenges. Adjustment solutions are formed from taking advantage of external opportunities to overcome the inherent weaknesses of farming households. Meanwhile, defensive measures are designed to both overcome weaknesses and limit the consequences brought about by outside challenges.

According to GTZ (2008) and Vo Thi Thanh Loc & Nguyen Phu Son (2013), there are 4 strategies or solutions to upgrade the VALUE CHAIN of a product, including:

- (i) Strategies / solutions to improve / innovate products. Under this strategy, innovation and improvement in processing and quality management in all stages of the VALUE CHAIN will increase the income of all actors in the VALUE CHAIN. Finally, the product quality is improved and new markets are added, and thus the selling price and output are increased;
- (ii) Cost reduction strategies / solutions. Under this strategy / solution costs will be reduced based on more rational and efficient use of inputs and or increased productivity in all stages of the VALUE CHAIN, and thus the portion that increases income for all actors in the VALUE CHAIN. Finally, it will increase the competitiveness of products, contribute to expanding market share and increase product consumption for the entire VALUE CHAIN;
- (iii) Investment strategies / solutions to create more jobs, mainly investing in the production and processing of products to ultimately increase market share and product consumption for the entire VALUE CHAIN; and
- (iv) Strategies / solutions to redistribute income between actors / improve distribution channels. This strategy / solution focuses on building horizontal linkages between members of the same actor (usually manufacturers of raw materials and primary products), building links between actors in the VALUE CHAIN and expanding the functionality to enter the market ahead and / or the back of the VALUE CHAIN, and to improve the contractual terms between the producer and the processor or service provider logistics, in order to ultimately improve the profit distribution shares of actors in the VALUE CHAIN more reasonably (especially producers and preliminary processors).

3. Conclusion

The enterprise's competitive advantage comes from many separate activities in design, production, Export, marketing, distribution, ... Each of these activities to reduce the relative costs of the business or creating a basis for differentiation, creating a competitive advantage for businesses.

Enterprise value chain is a common and basic tool that allows to systematically survey all business activities and their interactions to identify strengths and sources of competitive advantage. Therefore, enterprises need to understand the factors as well as the role of each element in the value chain of enterprises.

Basic activities in an enterprise's value chain are physical activities directly related to product creation, sales as well as after-sales support, including:

- Logistics of inputs: related to activities of receiving, inventory, and distributing inputs of products.
- Operation: related to the activities of transforming the input into the final product form.

Outbound logistics: involves activities such as the actual collection, storage and distribution of products to the buyer.

- Marketing and sales: relating to activities that provide a means for customers to buy a product or motivate them to buy a product.

Service: related to the provision of services to enhance or maintain the value of the product.

Depending on each industry, the above activities will bring a content of added value and determine a competitive advantage.

Additional activities

The firm's value chain complementary activities support primary operations, and they themselves also support each other through the supply of top purchases, technology, human resources, and other functions throughout enterprise.

Additional activities include:

Procurement: related to the function of the collection of inputs for use in the value chain.

- Technology development: each value-creating activity has a technology contribution. It is a know-how, process or technology embodied in process devices.

- Human resource management: Human resource is a strategic and vital asset for all businesses. Human Resource Management includes activities related to recruitment, training processes, coaching, development and income matters of all types of personnel.

Organizational infrastructure: includes activities such as general administration, planning, finance, accounting, legal relations, government relations and quality governance. Unlike other complementary activities, infrastructure supports the entire value chain of the business, not just individual activities.

Through the above analysis, it can be seen that the value chain of the enterprise plays a very important role in gaining competitive advantage for organizations.

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